

### **REMARKS**

This Amendment amends claim 1 in accordance with the original disclosure. Support for the claim amendment is found, for example, in the specification at paragraphs [0015], [0016] and [0018] and Examples 1 and 2. Claims 1-9 remain in this application

### **Rejections Under 35 U.S.C. §102**

Claims 1-6 and 8-9 stand rejected under 35 U.S.C. §102(b) as being anticipated by Acrurio et al. (U.S. Patent No. 6,723,820) (hereinafter "Acrurio"). Applicant respectfully disagrees.

Claim 1 is directed to a trimeric unsymmetrical polyurethane polyol comprising the reaction product of a diisocyanate; a linear aliphatic diol having 1-6 carbon atoms; and a linear polymeric diol having at least one oxycarbonyl linkage and having from 5-20 carbon atoms. The trimeric polyurethane polyol is represented by the formula:  $x$  moles aliphatic diol: 1 mole diisocyanate:  $y$  moles polymeric diol, where  $x+y=2$ . The polyurethane polyol consists of hydroxyl termination.

The Office Action applies Acrurio for teaching a prepolymer, comprising a diisocyanate component and a diol component. The Office Action asserts that the polyurethane prepolymer contains a  $-NCO$  to  $-OH$  ratio of less than 2 (see col. 2, lines 53-64). Additionally, the Office Action asserts that Acrurio teaches a first diol including low molecular weight aliphatic diols, such as pentadiol and polymeric diols including polycaprolactone diols (see col. 5, lines 30-67).

***1. Acrurio does not teach (or suggest) the claimed trimer having a polyurethane polyol that consists of hydroxyl termination.***

Because Acrurio does not teach the claimed polyurethane polyol that consists of hydroxyl termination, Acrurio can not anticipate the claimed invention. As previously indicated the claimed trimeric unsymmetrical polyurethane polyol comprises the reaction product of polyurethane polyol consisting of hydroxyl termination.

The transitional phrase "consisting of" is a closed term. MPEP 2111.03. Particularly, the transitional phrase "consisting of" excludes any element, step, or

ingredient not specified in the claim. Therefore, the claimed trimeric unsymmetrical polyurethane polyol is limited to a reaction product of polyurethane polyol consisting of hydroxyl termination. As the Office Action has indicated, Acrurio's prepolymers are designed to react with amines and contain a  $\text{-NCO} / \text{-OH}$  ratio of 1 to 2. The prepolymers of the claimed invention are limited to a prepolymer that consists of hydroxyl termination and would therefore have a  $\text{-NCO-/-OH}$  ratio of zero. Therefore, Acrurio does not teach (or suggest) each and every element of the claimed invention.

**2. *Acrurio does not teach (or suggest) pure urethane polymers***

Because Acrurio does not teach the claimed pure urethane, Acrurio cannot anticipate the claimed invention. Acrurio teaches making urethane urea from the amine containing prepolymers. The amine containing prepolymers of Acrurio form urethane ureas not pure urethanes. Because Acrurio does not teach prepolymers that would form pure urethane, Acrurio cannot teach (or suggest) the claimed invention. Therefore, Acrurio cannot anticipate claim 1.

**3. *Acrurio does not teach (or suggest) the claimed trimer***

The prepolymers in the claimed invention are trimers, where the ratio of diols to isocyanate is 2 to 1. Contrary to the claimed invention, the equivalent ratio of diols to isocyanate in Acrurio (example 1, table 1) is 4.67. The claimed prepolymers have no unreacted isocyanate groups and or OH terminated trimers. Acrurio's prepolymers are not trimeric and are designed to react with amines. The claimed trimers are polyols designed to react with isocyanates and cannot react with amines. Therefore, the prepolymer taught by Acrurio is not a trimer and Acrurio does not anticipate the claimed invention.

**4. *Acrurio does not teach (or suggest) unreacted isocyanate***

The prepolymer of Acrurio must have unreacted isocyanate in order to add the amine to form a urea. One of ordinary skill in the art would understand that if Acrurio reacted all of the isocyanate and crosslinked his prepolymer with the isocyanate (as is required by the presently claimed invention) reaction product would not have mechanical properties. Specifically, the prepolymer of Acrurio has 1.3% to 6.0% of

unreacted isocyanate groups, whereas the claimed prepolymers have no unreacted isocyanate groups. Because the prepolymers of Acrurio are not completely reacted, the excess unreacted isocyanate will have a shelf life limit as it will eventually react with the 1 to 3% isocyanate, thereby rendering it useless. This is contrary to the claimed trimers that are completely reacted and have an infinite shelf life. Therefore, Acrurio does not anticipate the claimed invention.

For at least the aforementioned reasons, claim 1 is not anticipated by Acrurio. Claims 2-6 and 8-9 depend from claim 1 and are not believed to be anticipated by Acrurio for at least the same reasons as claim 1. Withdrawal of the rejection under 35 U.S.C. §102(b) and reconsideration of claims 1-6 and 8-9 are respectfully requested.

**Rejections Under 35 U.S.C. §103**

Claim 7 stands rejected under 35 U.S.C. § 103(a) for obviousness over Acrurio in view of Watson (U.S. Patent No. 4,264,752) (hereinafter "Watson"). Each of these rejections is respectfully traversed for the following reasons.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Acrurio as applied to claim 1 in further view of Watson. As discussed above, Acrurio does not teach or suggest the limitations of amended claim 1. Watson does not overcome this deficiency. Watson merely shows a polyurethane prepared from an alkylene glycol carbonate or a polyoxyalkylene glycol carbonate formed from hexylene glycol or propylene glycol. Accordingly, claim 7 is believed patentable over Acrurio and Watson. Reconsideration of the rejection of claim 7 is respectfully requested.

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**CONCLUSION**

In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1-9 are respectfully requested.

Respectfully submitted,

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